

Claims

[c1] **WHAT IS CLAIMED IS:**

1. An actuating device for a transmission of a motor vehicle, the actuating device comprising:
a housing;
two pistons moveably arranged in the housing;
a coupling part arranged between the two pistons and acted on by the two pistons so as to be moved by the two pistons, wherein the coupling part is configured to connect to a shifting part of the transmission and is comprised, at least on a surface of the coupling part, of wear-resistant material;
wherein the two pistons are loosely seated on the coupling part.

[c2] 2. The device according to claim 1, wherein the two pistons are identical.

[c3] 3. The device according to claim 1, wherein the two pistons are mounted on the coupling part so as to have radial play relative to the coupling part.

[c4] 4. The device according to claim 1, wherein the coupling part comprises an engagement member for the shifting

part.

- [c5] 5. The device according to claim 4, wherein the engagement member has axial projections and wherein the two pistons are loosely mounted on the axial projections.
- [c6] 6. The device according to claim 5, wherein the axial projections are aligned relative to one another.
- [c7] 7. The device according to claim 5, wherein the axial projections have identical length.
- [c8] 8. The device according to claim 4, wherein the engagement member is located at half the length of the coupling part.
- [c9] 9. The device according to claim 4, wherein the engagement member has at least one groove to be engaged by the shifting part.
- [c10] 10. The device according to claim 9, wherein the coupling part has two flanges and wherein the groove is axially limited by the two flanges.
- [c11] 11. The device according to claim 10, wherein the engagement member has axial projections, wherein the two pistons are loosely mounted on the axial projections, and wherein the axial projections project perpendicularly from the flanges.

- [c12] 12. The device according to claim 10, wherein an outer diameter of the flanges is smaller than an inner diameter of the housing.
- [c13] 13. The device according to claim 1, wherein the coupling part is monolithic.
- [c14] 14. The device according to claim 1, wherein the coupling part is made of steel.
- [c15] 15. The device according to claim 1, wherein the two pistons are sleeve-shaped or annular.
- [c16] 16. The device according to claim 1, wherein the two pistons are cup shaped.
- [c17] 17. The device according to claim 1, wherein the engagement member has axial projections and wherein the two pistons are loosely mounted on the axial projections, wherein the two pistons have substantially the same length as the axial projections.
- [c18] 18. The device according to claim 1, wherein the axial projections each have a securing ring, wherein the two pistons are axially secured by the securing ring on the axial projections, respectively.
- [c19] 19. The device according to claim 1, wherein the cou-

pling part has two flanges and wherein the two pistons rest, at least when under pressure load, against one of the two flanges, respectively.

- [c20] 20. The device according to claim 1, wherein the housing has a through opening through which through opening the shifting part passes into the housing.
- [c21] 21. The device according to claim 20, wherein the coupling part comprises an engagement member for the shifting part, wherein an axial width of the through opening matches approximately an axial width of the engagement member.
- [c22] 22. The device according to claim 21, wherein the engagement member has axial projections and wherein the two pistons are loosely mounted on the axial projections, wherein a maximum stroke of the coupling part is smaller than a guide length of the axial projections in the two pistons.
- [c23] 23. The device according to claim 1, wherein the two pistons consist of light metal.
- [c24] 24. The device according to claim 23, wherein the two pistons consist of aluminum.
- [c25] 25. The device according to claim 1, wherein the housing

consists of light metal.

- [c26] 26. The device according to claim 25, wherein the housing consists of aluminum.
- [c27] 27. The device according to claim 1, wherein the coupling part comprises an engagement member for the shifting part, wherein the engagement member has axial projections and wherein the two pistons are loosely mounted on the axial projections, further comprising seals arranged inside the two pistons between the axial projections and an inner wall of the two pistons, respectively.
- [c28] 28. The device according to claim 27, wherein the seals are round seals.
- [c29] 29. The device according to claim 27, wherein the seals are arranged in annular grooves of the axial projections or annular grooves of the two pistons.
- [c30] 30. The device according to claim 1, wherein the housing has a first end formed by a bottom and a second open end closed by a cover.
- [c31] 31. The device according to claim 30, wherein a first one of the two pistons is arranged adjacent to the bottom and a second one of the two pistons is arranged adjacent

to the cover of the housing, wherein the first piston and the bottom define a first pressure chamber and wherein the second piston and the cover define a second pressure chamber.

- [c32] 32. The device according to claim 1, wherein the device is a hydraulic actuator or a pneumatic actuator.
- [c33] 33. The device according to claim 1, wherein the wear-resistant material is steel.
- [c34] 34. The device according to claim 1, wherein the shifting part is a shift fork.